

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES T. PETTINGELL and JAMES T. SNYDER

Appeal No. 1999-0832
Application No. 08/147,793

ON BRIEF

Before RUGGIERO, DIXON, and LEVY, Administrative Patent Judges.
LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-7, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a variable dark-field illumination system for micro and macro optical imagers. An

understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced as follows:

1. An optical imaging system illumination apparatus for providing a variable dark-field image wherein features of an object appear to be light and a background appears to be dark and whereby the light from said object of the image passes freely through an optical discriminator and into a pupil and light from a source, said source appearing in a field-of-view of imaging optics, is blocked at a discriminator optic and does not pass into the pupil of the imaging optics; the apparatus comprising:

a) an illumination source, which produces polarized light that propagates as a beam substantially along an optic axis;

b) the optical axis, which defines an axis of symmetry for the cylindrically symmetric optics which include special cases of spherically symmetric optics, whereby a beam of light from said light source propagates away from a light source along the axis;

c) an object volume, which is symmetric about said optical axis having a peripheries defined by extent of the beam of light and the limits of the field of view of;

d) imaging optics, which produce an image in an image volume of an object in said object volume which has a light field emanating therefrom;

e) a pupil aperture, symmetric about the optic axis between the object volume and the imaging optics;

f) a polarization analyzer optic, symmetric about the optic axis between the object volume and the imaging optics; and

g) a detector, in the image volume of said imaging optics.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Suzuki et al. (Suzuki)	4,634,240	Jan. 6, 1987
Kino et al. (Kino)	4,927,254	May 22, 1990

Claims 1, 4, and 7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Suzuki.

Claims 2, 3, and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Suzuki in view of Kino.

Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Suzuki.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 23, mailed November 25, 1997) for the examiner's complete reasoning in support of the rejections, and to appellants' brief (Paper No. 22, filed September 29, 1997) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the

rejections advanced by the examiner, and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer. Upon consideration of the record before us, we reverse.

We consider first the rejection of claims 1, 4, and 7 under 35 U.S.C. § 102(b) based on the teachings of Suzuki. Anticipation is a question of fact. In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by our reviewing court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

Appellant asserts (brief, page 3) that Suzuki does not disclose the claimed arrangement of elements. Appellants further assert (id.) that appellants use a polarizer to extinguish light which has not interacted with a specimen, and that this "effect has not occurred in Suzuki." Although appellants describe the differences between the optical apparatus and appellants' invention, appellants do not point out any specific language in the claims that appellants consider to distinguish over Suzuki. The specification (page 4) discusses the differences between the Suzuki reference and appellants' invention stating, inter alia, that:

The present invention distinguishes itself from the invention of Suzuki in that the polarizer is used to control the quantity of light that enters the camera for an exposure control means. The polarizers of the invention are used to discriminate against light having a certain property and does not act uniformly on the entire beam as the polarizers of the Suzuki invention do.

We observe that claim 1 recites, inter alia:

whereby the light from said object of the image passes freely through an optical discriminator and into a pupil and light from a source, said source appearing in a field-of-view of imaging optics, is blocked at a discriminator optic and does not pass into the pupil of the imaging optics;

The examiner responds to appellants' assertions (answer, page 10) by stating that "[a] recitation of the intended use of the invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art," and that "[i]f the prior art structure is capable of performing the intended use, then it meets the claim." The examiner further asserts (id.) that "the feature upon which applicant relies (i.e., the polarizer is adjusted independently of any exposure feature) are [sic] not recited in the rejected claim(s)."

We consider the above-quoted limitations of claim 1 to establish a broad recitation of structure. Independent claim 7 contains identical language. From our review of Suzuki (col. 3, lines 12-16) we find that the direction of the polarizing plate is changed in accordance with the selected magnification, and that (col. 3, lines 29-31) "the quantity of light is controlled by rotating the polarizing plate 8 in association with the zooming." Suzuki further discloses (col. 3, lines 40-43) that "the quantity of light incident on the

image pick-up surface can be maintained constant even if the image magnification is continuously changed by zooming."

From our review of Suzuki, we find no teaching or suggestion of the claim language "whereby the light from said object of the image passes freely through an optical discriminator and into a pupil and light from a source, said source appearing in a field-of-view of imaging optics, is blocked at a discriminator optic and does not pass into the pupil of the imaging optics." The examiner has not pointed to any teaching or disclosure in Suzuki, or advance any line of reasoning that would suggest that the optical apparatus of Suzuki was capable of meeting the limitations regarding the claimed optical discriminator. Accordingly, we find that the examiner has failed to establish anticipation of independent claims 1 and 7, as well as dependent claim 4, by Suzuki. The rejection of claims 1, 4, and 7 under 35 U.S.C. § 102(b) is therefore reversed.

We turn next to the rejection of claims 2, 3, and 5 under 35 U.S.C. § 103 as unpatentable over Suzuki considered with Kino. The examiner merely relies upon Kino for a disclosure

of the illumination source being a laser¹ (claim 2) and a arc discharge source (claim 3). We find that Kino does not overcome the basic deficiencies of Suzuki. Accordingly, the rejection of dependent claims 2, 3, and 5 under 35 U.S.C. § 103 is reversed.

Turning next to the rejection of independent claim 6 under 35 U.S.C. § 103 as unpatentable over Suzuki², the examiner's position (answer, page 8) is that since Suzuki discloses all of the structural elements of the claim, that it would have been obvious to use Suzuki "to achieve a method of darkfield illumination system as claimed." We find that claim 6 recites,

¹ Although the examiner relies upon Kino for a teaching of using a laser as the illumination source, we note that this feature is in fact taught by Suzuki (col. 5, lines 34-37).

² The statement of the rejection of claim 6 recites that the claim is rejected over Suzuki. However, at the conclusion of the rejection, the examiner makes an additional statement that it would have been obvious to use the structure of Kino to obtain the claimed method "because the structure of Kino et al. (4,927,254) would inherently increase the intensity of illumination, reduce the intensity level." This rejection has been repeated since the non-final Office action (Paper No. 12, mailed September 11, 1996), and appellant has not commented on this point. "Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection." In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970). See also Ex parte Raske, 28 USPQ2d 1304, 1305 (Bd. Pat. App. & Int. 1993). Accordingly, the Kino reference will not be considered as to the patentability of claim 6 since the reference was not included in the statement of the rejection.

a) increasing intensity of the illumination source which illuminates the object with polarized light whereby intensity of brightest features of the object near a level of the detector response saturation point; and

b) reducing the intensity level of the darkest features of the object to levels near the detector's minimum response level by adjusting a polarizer to discriminate against the polarization state of the source illumination,

From our review of Suzuki, we find no teaching or suggestion of these features. While Suzuki discloses (col. 3, lines 57-61) that if the polarizing plate is designed to permit the maximum magnification (the longest focal-length), the source of illumination light can effectively be utilized. Suzuki does not disclose that the maximum quantity of light at the maximum magnification is near a level of the detector response saturation point. In addition, while Suzuki discloses adjusting the polarizer which can reduce the intensity level, we find no suggestion in Suzuki that the intensity levels of the darkest features are at a level near the detector's minimum response level. The examiner's unsupported assertion (answer, page 8) that the method would have been obvious is not a substitute for evidence, and does not establish the factual basis necessary to support a rejection of the claim.

As the examiner has failed to establish a prima facie case with respect to claim 6, there is no need for appellants to rebut; which we note, is what appellants have done. Accordingly, the rejection of claim 6 under 35 U.S.C. § 103 is reversed.

OBSERVATIONS AND REMARKS

Although the metes and bounds of the claims can be readily ascertained in light of the specification, and the examiner has not set forth any rejection of the claims under 35 U.S.C. § 112, second paragraph, we note that as a formal matter, the relationship between the optical discriminator and the polarization analyzer optic of claims 1 and 7 should be clarified. The same applies, by way of example, to the relationship between the imaging optics and the cylindrically symmetric optics of claims 1 and 7. In addition, the grammar and syntax should be corrected as necessary; i.e., "having a peripheries" (claim 1, lines 14 and 15), and "whereby intensity of brightest features of the object near a level of the detector response saturation point" (claim 6, lines 5 and

6). This issue should be addressed by both the examiner and appellants prior to any patent issuing on this application.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 4, and 7 under 35 U.S.C. § 102(b) is reversed. The decision of the examiner to reject claims 2, 3, 5, and 6 under 35 U.S.C. § 103 is reversed.

REVERSED

JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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APPLICATION NO. 08/147,793

`APJ LEVY

APJ RUGGIERO

APJ DIXON

DECISION: **REVERSED**

Prepared By: GJH

DRAFT TYPED: 06 Nov 02

FINAL TYPED: